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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,432	10/06/2004	Yukio Kimura	04581/LH	1515

1933 7590 12/28/2006  
FRISHAUF, HOLTZ, GOODMAN & CHICK, PC  
220 Fifth Avenue  
16TH Floor  
NEW YORK, NY 10001-7708

EXAMINER
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WOLFE, DEBRA M

ART UNIT	PAPER NUMBER
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3725

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/28/2006	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/510,432	<b>Applicant(s)</b> KIMURA ET AL.	
	<b>Examiner</b> Debra Wolfe	<b>Art Unit</b> 3725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/6/2004</u> . | 6) <input type="checkbox"/> Other: _____  |



## DETAILED ACTION

### *Information Disclosure Statement*

The information disclosure statement filed October 6, 2004 fails to comply with 37 CFR 1.98(a)(2), because a legible copy of each cited foreign patent document was not received when the Information Disclosure Statement was filed. It has been placed in the application file, but the information referred to therein has not been considered.

### *Drawings*

Figures 4B, 8A, 8B, 14, and 15 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, a reference to "the plane vertical to the rotation axis" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an



application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

The disclosure is objected to because of the following informalities: there appears to be some missing language on page 21, line 11 between the terms "a" and "6".

Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

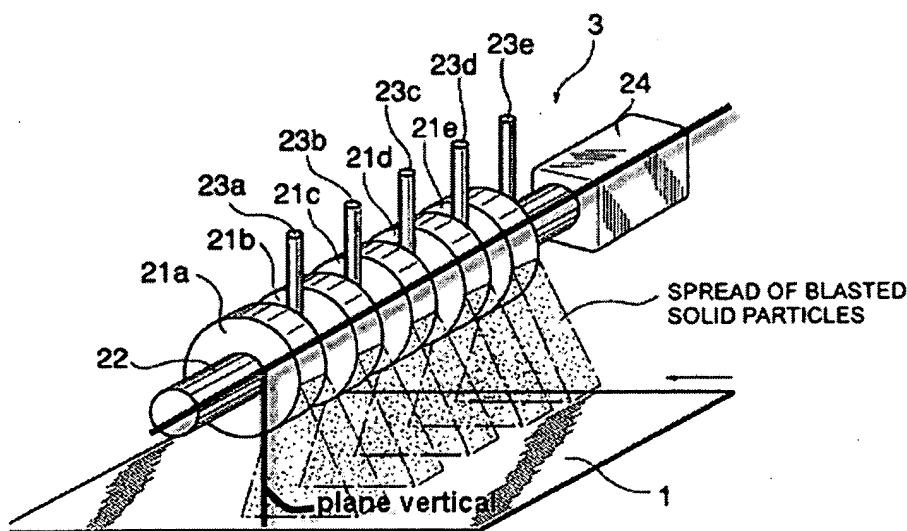
Claims 1-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The limitation of claim 1 requires the line of intersection between the plane vertical to the rotation axis and the plane of the metallic sheet to become parallel to or 45° or less angle to the direction of travel of the metallic sheet, however the terminology "the plane vertical" is unclear to enable one of ordinary skill in the art to make or use the invention. Furthermore, the specification and drawings fail to provide reference lines to define what applicant claims as "the plane vertical".

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:



The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitation of claim 1 referring to the plane vertical to the rotation axis is unclear therefore rendering the claim indefinite. Applicant fails to disclose in the specification and drawings what is the plane vertical. It appears that applicant is trying to claim the orientation of the blast range with respect to the direction of travel of the metallic plate by defining the orientation of the blasting machine, however as understood by the Examiner the plane vertical to the rotation of axis is unable to be parallel but rather will be perpendicular to the direction of travel of the metallic sheet [See FIG below].



***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:



(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 2 and 7-9 are rejected, as best understood, under 35 U.S.C. 103(a) as being unpatentable over Baughman (US Patent # 3,705,510) in view of Mitsubayashi et al (US Patent # 6,651,299). Baughman discloses a shot peening apparatus and method for a metallic sheet comprising of at least one centrifugal blasting machine for blasting solid particles (shots) against a metallic sheet that continuously travels (conveyor 16) wherein the centrifugal blasting machine has a centrifugal rotor (36) with a rotation axis such that the line of intersection between the plane vertical to the rotation axis and the plane of the metallic sheet is 45° or less angle to the direction of travel of the metallic sheet (72) [See FIG 8]. Baughman discloses the invention substantially as claimed except for wherein the solid particle has a diameter of 30 to 300µm. However, Mitsubayashi et al teaches of using a shot-peening particle having a diameter of 70µm in order to improve fatigue strength of the metal. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the diameter size of the particles (shots) of Baughman to have a diameter size of 70µm as taught by Mitsubayashi et al to improve the fatigue strength of the metal during the peening process.

Regarding claims 8 and 9, the Examiner takes Official Notice that the inclusion of a blasting machine in a hot-dip coating line and/or a continuous annealing line is conventionally known within the art of sheet product fabrication, and therefore would have been an obvious combination with Baughman and Mitsubayashi et al for producing a metallic sheet.



2. Claims 1, 3 and 7 are rejected, as best understood, under 35 U.S.C. 103(a) as being unpatentable over Benedict et al (US Patent # 6,584,820) in view of Applicant's admitted prior art. Benedict et al discloses an apparatus and method of enhancing a surface of a metal plate comprising blast nozzles (230) for blasting solid particles (glass beads) against a metallic sheet that continuously travels below the blasting nozzles (230) wherein the blasting nozzles (230) are positioned such that the line of intersection between the vertical plane of the nozzles and the plane of the metallic sheet (201) is parallel to the direction of travel of the metallic sheet (201). Benedict et al discloses the invention substantially as claimed except for wherein the particle size is between 30 to 300 $\mu$ m and the blasting machine is a centrifugal blasting machine. However, page 4 of Applicant's disclosure states that it is known within the blasting (peening) art to use particles having a particle size of 80 to 180 $\mu$ m and that centrifugal blasting machines and air blasting machines are art equivalents since they perform the same function and deliver the same desired finished product. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the nozzles and particle size of Benedict et al to be centrifugal blasting machines with particle sizes of 80 to 180 $\mu$ m as taught by Applicant's disclosure since the blasting machines are art equivalents and the particle sizes help prevent crack generation.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Debra Wolfe whose telephone number is (571) 272-1904. The examiner can normally be reached Monday - Thursday 7am - 4:30pm with alternating Friday 7am - 3:30pm.

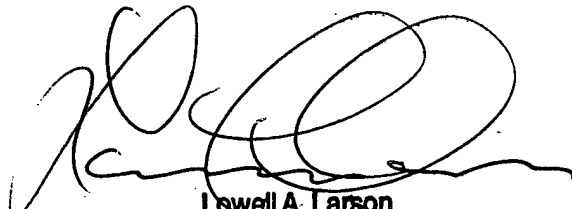


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lowell Larson can be reached at (571) 272-4519. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Lowell A. Larson  
Primary Examiner

Debra Wolfe  
Examiner  
Art Unit 3725